Amendments to the Drawings:

The attached replacement sheet of drawings includes changes to Figs. 1A-1D.

In the Figs. 1A-1D, the reference numbers have been corrected by replacing:

2 with 1,
3 with 2,
4 with 3,
5 with 4,
7 with 5,
8 with 6,
9 with 7,
10 with 8,
11 with 10, and
12 with 9.

The reference number "6" has been deleted.

Attachments following last page of this Amendment:

Replacement Sheet (1 page)

REMARKS

In response to the Office Action dated June 29, 2007, applicant has amended claims 1-7, 12, and 14 and added new claims 15-19. Claims 1-19 are presented.

Support for the amendments and the new claims can be found, for example, in the Specification at page 1, 3rd paragraph, at page 3, 2nd paragraph, at page 4, 2nd and last paragraph, and at page 6, last paragraph.

With the amendment of figures 1A-1D and the paragraphs on pages 6 and 7, the description and the figures are brought into correspondence.

Claims 1-9 and 11-14 have been rejected under 35 U.S.C. 103(a) as allegedly unpatentable over U.S. Patent Application 2002/0195609 ("Yoshitake") in view of U.S. Patent No. 5,324,550 ("Yamaguchi"). Claim 10 is rejected further in view of U.S. Patent No. 7,145,721 ("Banish").

In making the rejection, the action focuses primarily on Fig. 9C of Yoshitake. This figure describes an LED device with an active layer 113, a buffer layer 111, and a substrate 110. An antireflecting film 117 is applied to the device. The antifreflecting film 117 has a refractive index of 2 and consists of a polyamide resin having TiO_2 added to it (see paragraph [0069]). Press shaped by a metal mold, the surface of the antireflecting film 117 has protrusions such that the its surface roughness is set to be less than the wavelength of the emitted light.

We traverse the rejection.

First, independent claims 1 and 7 now require "at least one semiconductor layer with at least one surface having an intermixing structure that leads to an approximately ergodic distribution of the light in the epitaxial layer sequence." We do not see this limitation in either of the cited references.

Second, each independent claim requires "a reflective layer that is disposed on a principal surface of said epitaxial layer sequence facing toward said carrier element and reflects at least a portion of the electromagnetic radiation generated in said epitaxial layer sequence back thereinto." The action points to substrate 110 as the claimed reflective layer. But this is incorrect. We can find no disclosure in Yoshitake that substrate 110 is reflective to

electromagnetic radiation generated in said epitaxial layer. Furthermore, substrate 110 is not disposed on a principal surface of said epitaxial layer sequence facing toward said carrier element.

We further respectfully disagree with the Action's characterization of lower electrode 119 in Yoshitake as the claimed carrier element. To the contrary, the mechanical stability of the Yoshitake LED device is based on the substrate 110, not lower electrode 119.

Third, the action points to the polyamide resin having TiO_2 as the claimed "structured layer containing a glass material." But, Yamaguchi does not say that the TiO_2 is a glass material. To the contrary, it might very well be added to the resin in a crystalline state.

The action all but concedes this point by pointing to the "spin on glass" material in Yamaguchi and alleging that it would be obvious use this material in Yoshitake because of its alleged "ease of deposition." We disagree.

First, there is no indication that the spin on glass material in Yamaguchi is suitable for patterning as required by the claimed structured layer. Thus, it might be harder to use, not easier, in the context of the claim as a whole. Second, Yamaguchi's use of this material is in a very different context.

Specifically, Yamaguchi describes a method for forming a pattern of a resist film in the field of integrated circuit technology, e.g., DRAM manufacturing. The office action cites specifically an embodiment having a spin on glass film 703 on an article 704 that is used as a bottom layer for a chemically amplified positive resist film 702. In this embodiment, the resist film 702 is patterned by exposure of an electron beam 701. Because the spin on glass 703 contains an acid generator, an acid 706 generated by the radiation of the electron beam 701 can diffuse into the resist film 702 and a good cross-sectional shape of the resist film 702 is preserved.

On the other hand, the present claim relates instead to the structured glass layer's use in out-coupling light from an LED. Accordingly, there is no good reason for a person of ordinary skill in the art to use the spin on glass material from Yamaguchi to replace the polyamide resin having TiO_2 in the device of Yoshitake. For example, there is no reason to expect that the

antireflection film 117 having a reflective index of 2.0 and being prepared by adding TiO_2 to a polyamide resin (as disclosed in Yoshitake) and the film 703 formed of material comprising titanium oxide-containing spin on glass and 5% triphenylsulfonium trifluoromethane sulfonate (as disclosed in Yamaguchi) have comparable optical properties.

Finally, even if there were a good reason to combine the references, the combined references do not disclose introducing a structure into a layer containing a glass material. Specifically, it is not disclosed to structure a glass material such that it has "mutually adjacent protuberances that taper away from said radiation extraction surface and have a lateral grid size that is smaller than one wavelength of an electromagnetic radiation emitted from said epitaxial layer sequence," as claimed.

Accordingly, we submit that the independent claims, claims 1 and 7 patentably distinguish Yoshitake and Yamaguchi.

The remaining rejections of the dependent claims cover specific features of the material of the structured layer containing the glass material and of the structure itself. Applicant submits that each of these dependent claims are patentable because they depend from a patentable independent claim, for at least the reasons discussed above.

Additionally, applicant notes that there is no indication to assume that the film 703 formed of material comprising titanium oxide-containing spin on glass and 5% triphenylsulfonium trifluoromethane sulfonate as disclosed in Yamaguchi for integrated circuit technology is characterized by a relative index of refraction as recited in claim 2. Moreover, in the cited references, applicant could not find any disclosure of a structured glass material or spin on glass material as recited in claims 3-6.

In view of the above, we ask for the application to be allowed.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as

an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

The fees for the Two Month Extension of Time of $460.00 are being paid concurrently with the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any charges to deposit account 06 1050, referencing Attorney-Docket No. 12406-148US1.

Respectfully submitted,

Date: November 29, 2007

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